UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,228	04/27/2001	David B. Smith	42430-10404	1447

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EXAMINER
LAM, DANIEL K

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/844,228	SMITH ET AL.
		Examiner	Art Unit
		Daniel K Lam	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*27 April 2001*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>*11/29/2002*</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the
United States before the invention thereof by the applicant for patent, or on an international application
by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors

Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology

Technical Amendments Act of 2002 do not apply when the reference is a U.S.

patent resulting directly or indirectly from an international application filed before

November 29, 2000. Therefore, the prior art date of the reference is determined

under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C.

102(e)).

2. **Claims 1-6, 14-19, 22, and 23** are rejected under 35 U.S.C. 102(e) as being

anticipated by U. S. Pat. No. 6,704,287 issued to Moharram.

Regarding **claims 1 and 14**, Moharram discloses a method for loop back

testing in a web tone network that includes network elements coupled via

communication links, where at least some of the network elements converts one

network protocol to another network protocol (see fig. 2, TDM/ATM carrier

gateway 28 and protocol conversion at step 106, and col. 10, lines 53-54),

comprising:

- Transmitting (claim 1) and means for transmitting (claim 14) a loop back test message (see fig. 2, initial TCP and TLOG at step 100 from the SMS workstation 56, and col. 10, lines 30-33) from a first network element (switch 44) of the plurality of network elements (switch 44, carrier gateway 28, IP gateway 30, and ISP 62), wherein the loop back message is directed to traverse a plurality of network elements (the path from switch 44 towards ISP 62, and see col. 10, line 27 to col. 11, line 36) and return to the first network element (the reverse path from ISP 62 to switch 44);

wherein each network element that receives the loop back test message:

- Adds a network identifier to the loop back test message to indicate that the each network element received the loop back test message (each switch or gateway adds an TLOG entry into the message; each TLOG contains a point code for identifying the network element; see fig. 2, steps 102 and 108); and

- Adds a protocol attribute to the loop back test message (a selector data indicator attribute the traveling log; see col. 15, lines 44-46), wherein the protocol attribute represents a function performed by the each network element (means for posting information into the traveling log; also see col. 15, lines 44-46).

Regarding **claims 2, 3, 15, and 16,** in addition to disclose the limitations discussed earlier in claims 1 and 14, Moharram further discloses the method comprising the first network element receiving (claims 2 and 3) and means for receiving (claims 15 and 16) the loop back test message and verifying that for the each network element that received the loop back test message, the protocol

attribute (claims 2 and 15) and the identifier (claims 3 and 16) in the loop back

test message matches an expected protocol attribute and an expected network

identifier (the originating network element is responsible for maintaining,

reporting, and classifying the traveling log; see col. 7, lines 27-32).

Regarding **claims 4, 5, 17, and 18**, in addition to disclose the limitations

discussed earlier in claims 1 and 14, Moharram further discloses one network

protocol (claims 4 and 17) and the other network protocol (claims 5 and 18) is one

of an Internet protocol (see fig. 2, IP carrier network 70), a time-division

multiplex protocol (switch 44), an asynchronous transfer protocol (carrier network

24 which can be ATM, IP, or Sonet; see col. 10, and lines 60-62), a packet

protocol (IP carrier network 70), a digital telephony protocol (switch 44) and an

analog telephony protocol (switch 44).

Regarding **claims 6 and 19**, in addition to disclose the limitations

discussed earlier in claims 1 and 14, Moharram further discloses the protocol

attribute is one of a bit pattern, a tone, and a function (a selector data indicator;

see col. 15, lines 44-46).

Regarding **claims 22 and 23**, in addition to disclose the limitations

discussed earlier in claims 15 and 16, it is commonly known that switch 44,

carrier gateway 28, and IP gateway 30 contain numerous processors handling

message transmission and reception, and loop back handling (means for

transmitting and means for receiving include a processor). See fig. 2.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived
> by the manner in which the invention was made.

4. **Claims 7-10 and 20-21** are rejected under 35 U.S.C. 103(a) as being unpatentable

over U. S. Pat. No. 6,704,287 issued to Moharram in view of U. S. Pat. No.

5,563,875 issued to Hefel et al (hereinafter Hefel).

Regarding **claims 7, 8, 20, and 21**, although Moharram discloses the

limitations in claims 2, 3, 15, and 16 discussed earlier, he does not disclose the

method further comprising the step of monitoring (claims 7 and 8) and means for

monitoring (claims 20 and 21) a time from the step of transmitting the loop back

test message from the first network element to the step of receiving the loop back

test message at the first network element.

Hefel discloses a method of sending wrap around test messages 44, 45, and 46

initiated at an originating node 40. Each message contains a time stamp

representing the precise time the message is launched from the node 40. The node

40 monitors the returning of the messages. See fig. 2, reference data 23 which

contains a timestamp, and col. 5, lines 52-60, and col. 5, line 66 to col. 6, line 5.

Therefore, it would have been obvious to those having ordinary skill in the art, at

the time of invention, to have a protocol attribute and a network identifier in the

loop back test message, and monitor the loop back time between sending and

receiving the message for a key reason. Having a protocol attribute and a network identifier in the loop back test message, the first network element can easily identify and monitor the response time of a entire path from itself to any particular destination node as taught by Hefel. See col. 1, lines 25-31, and fig. 4, the path from node 40 to 41, or the path from node 40 to node 42.

Regarding **claim 9**, in addition to disclose the limitations in claim 1 discussed earlier, Hefel further discloses the loop back test message specifies a path to traverse from the first network element back to first network element (see fig. 2, routing information vector 22 for routing the message from source to destination, and col. 2, lines 51-53).

Regarding **claim 10**, in addition to disclose the limitations in claim 1 discussed earlier, Hefel further discloses the loop back test message does not specify a path to traverse from the first network element back to first network element. See col. 1, lines 12-22.

5. **Claims 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,704,287 issued to Moharram in view of U. S. Pat. No. 6,466,548 issued to Fitzgerald.

Regarding **claim 11**, although Moharram discloses the limitations in claim 1 discussed earlier, he does not disclose in response to receiving the loop back message, at least one network element that converts from a first network protocol to a second network protocol:

- Sends a first message to the first network element, wherein the first message corresponds to the first network protocol and is not converted to the second

network protocol by the at least one network element that converts from the
first network protocol to the second network protocol.

- Sends a second message to the first network element, wherein the second
  message corresponds to the first network protocol and is converted to the
  second network protocol and then back to the first network protocol by the at
  least one network element that converts from the first network protocol to the
  second network protocol.

Fitzgerald discloses a multilevel loop back method for hop-by-hop quality of
service measurement having a IP packet router 56, DSP subsystem 58, and PSTN
network interface 60 inside a VoIP gateway 30 (see fig. 5, and col. 5, lines 45-
56):

- An uncompressed loop back message 64 coming into the DSP 58 from the
  PSTN interface 60 is turned around and sent back out PSTN 62. See fig. 5,
  and col. 6, lines 23-26.

- A RTP session stream 68 coming from the PSTN 62 is turned and sent back
  out PSTN 62 by the IP router 56. See fig. 5, and col. 6, lines 39-45.

Therefore, it would have been obvious to those having ordinary skill in the art, at
the time of invention, to develop a loop back testing method in a hybrid network
including a plurality of network elements, where at least some of the network
elements does protocol conversion, each network element adds a network
identifier and a protocol attribute to the loop back test message, at least one
network element returns the loop back test message without protocol conversion
and returns another loop back test message with protocol conversion, for a key

reason. By returning the loop back messages before and after protocol conversion,

different levels of hardware and software within the gateway or network element

can be tested as taught by Fitzgerald. See col. 6, lines 12-13.

6. **Claims 12-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.

S. Pat. No. 6,704,287 issued to Moharram in view of U. S. Pat. No. 6,466,548

issued to Fitzgerald in further view of U. S. Pat. No. 5,563,875 issued to Hefel et

al (hereinafter Hefel).

Regarding **claim 12**, although Moharram and Fitzgerald disclose the

limitations in claim 11 discussed earlier, they do not disclose he first message and

the second message each include a time identifier.

However, Hefel discloses a method of sending wrap around test messages 44, 45,

and 46 initiated at an originating node 40. Each message contains a time stamp

representing the precise time the message is launched from the node 40. See fig.

2, reference data 23 that contains a timestamp, and col. 5, lines 56-57.

Therefore, it would have been obvious to those having ordinary skill in the art, at

the time of invention, to develop a loop back testing method in a hybrid network

including a plurality of network elements, where at least some of the network

elements does protocol conversion, each network element adds a network

identifier and a protocol attribute to the loop back test message, at least one

network element returns the loop back test message without protocol conversion

and returns another loop back test message with protocol conversion, and the first

and second messages each includes a time identifier, for a key reason. Having a

time identifier in the loop back test message, the first network element can easily

monitor the response time of a entire path from itself to any particular destination

node as taught by Hefel. See col. 1, lines 25-31.

Regarding **claim 13**, in addition to disclose the limitations in claim 11

discussed earlier, Hefel further discloses the originating node 40 compares the

first and the second messages received for calculating transmit time and wrap

around time. See col. 6, lines 12-20.

Conclusion

7. Any inquiry concerning this communication or earlier communications

from the examiner should be directed to Daniel K. Lam whose telephone

number is (703) 305-8605. The examiner can normally be reached on

Monday-Friday from 8:30 AM to 4:30 PM.

If attempt to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The

fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this

application or proceeding should be directed to the Group receptionist

whose telephone number is (703) 305-4700.

Information regarding the status of an application may be obtained

from the Patent Application Information Retrieval (PAIR) system. Status

information for published applications may be obtained from either Private

PAIR or Public PAIR. Status Information for unpublished applications is

available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on

access to the Private PAIR system, contact the Electronic Business Center

(EBC) at 866-217-9197 (toll-free).

DKL *dkl*

July 31, 2004

KWANG BIN YAO
PRIMARY EXAMINER